Autocase BUILDINGS

Optimize the lifecycle financial, social & environmental value of your project's design...in less than half an hour

Building owners want buildings that perform at the highest level, with goals ranging from maximizing rental rates to increasing occupant productivity to optimizing for resource efficiency and resiliency. To accomplish these goals, project proposals must be understood in terms of lifecycle costs, benefits, and trade-offs, as well as how they affect the building owner, occupants and the community.

Triple Bottom Line-Cost Benefit analysis (TBL-CBA) is an evidence-based economic method that combines **Life Cycle Cost Analysis (LCCA) and Cost Benefit Analysis (CBA)** techniques to quantify and attribute monetary values to the **Triple Bottom Line (TBL)** – financial, social, and environmental - impacts of a given project or proposal. This more comprehensive version of CBA makes it possible to justify a project uncontestably to key stakeholders whether they be investors, government officials or the local community.

Sample Output from **Autocase for Buildings**

Value by Stakeholder

Cost or Benefit Category	Lifetime Present Value
Owner	
Capital Expenditure	-$515,627
Occupant	
Absenteeism	$66,200
Electricity Costs	$603,700
Natural Gas Costs	$532,177
Productivity	$1,199,516
Water Costs	$83,636
Community	
Air Pollution	$680,694
Carbon Emissions	$411,839
Social Water Value	$334

Stakeholder Group Totals	Lifetime Present Value
Owner	-$515,627
Occupant	$2,485,229
Community	$1,092,867
Triple Bottom Line Value	$3,062,469

All Designers and Owners need to:	Now you can, in just minutes, using:
1. Optimize your design for highest value	...scenario comparison and **lifecycle cost analysis**
2. Prove your proposal's business case	...standardized, robust **cost-benefit analysis**
3. Cost-justify greener projects by quantifying non-cash benefits	...consensus-based default values for the **triple bottom line vetted** and kept current by our Economist team
4. Communicate to key stakeholders, to counter NIMBYism, expedite permitting, and please investors	...**auto-generated Executive Summaries** and 150-page fully annotated Reports
5. Secure as many LEED points as possible	...the new **LEED Pilot Credits explicitly** for "triple bottom line-cost benefit analysis"

Triple Bottom Line (TBL) Cost-Benefit Analysis (CBA) has historically been very expensive and the realm of specialized expert economists. We should know. Our team has a collective 50 years and $50B in applied project experience. We - and other consultants like us - charged $100-200k per analysis. That's because even just to compare two design scenarios required mountains of data collection (regional weather, economic, demographic, capital & operating costs)...and that's before the analysis even began. So in 2015, we set out to "automate the business case" (Autocase), democratizing via software what historically was only available as custom studies, cutting the price by 99% and empowering designers and owners to run the analyses themselves. Automation also means analyses can be run iteratively as part of design and CBA methods can be standardized making results more credible.

KEY FEATURES

- Make the case for LEED and/or secure extra LEED Pilot Credits just by running the software.
- Analyze the effects of decisions around building energy systems, power procurement, daylighting and views, interior lighting, thermal comfort, indoor & outdoor water use, stormwater, etc.
- Gain a better understanding of how your building decisions are affecting value for the Owner, Occupant, and surrounding Community.
- Take advantage of dozens of regionally-specific values to cater the analysis to your region.
- Collaborate on your projects with colleagues or share results with clients with one click.

SAMPLE PAST BUILDINGS PROJECTS

AIRPORTS: A $2B redevelopment of Terminal 1 at **San Francisco International Airport (SFO)** required in its RFP "comprehensive business case analysis, including economic, social, and environment costs and benefits adjusted for risks and uncertainty". It pointed explicitly to Autocase. Gensler and HKS, who won the contract, worked with Impact Infrastructure to run Triple Bottom Line – Cost Benefit Analyses ("TBL-CBA") on various energy use intensity investments, interior space designs, and a green roof. When Los Angeles International Airport (LAX) needed to prioritize between 17 major utility systems alternatives across electrical power, chilled and heating hot water, domestic and fire water, sanitary, and recycled water), their infrastructure master planners turned to Autocase.

HEALTHCARE AND GOVERNMENT FACILITIES: **The US Department of Defense** was able to use economic analyses for planning and design prioritization of **US Army Garrison Humphreys in South Korea, Fort Belvoir Hospital in Virginia, Fort Bliss Replacement Hospital in Texas, Joint Base Pearl Harbor-Hickam in Hawaii**, while prioritizing capital projects for the **U.S. Defense Health Agency**. The Department of Energy (DOE) compared proposed designs to ASHRAE standards in terms of dollar values in energy performance improvements, emissions reductions, and environmental enhancements.

CORPORATE REAL ESTATE: The largest global industrial real estate company, **Prologis**, assessed its warehouse designs relative to local codes across North America, and used the results with its investors and permitting agencies to showcase its strong governance and sustainability credentials. **Pratt & Whitney, a $14B division of UTC**, evaluated energy and water reduction designs and technologies at their primary Parts & Services Division manufacturing facility in Arkansas to determine the optimal investment and feasibility of such technologies. Civil engineering and architecture giant, **Dewberry**, assessed the TBL-CBA of its new headquarters in Fairfax, Virginia, to ascertain which green design elements were of highest value.

UNIVERSITIES: **Johns Hopkins University's** Sustainable Campus Initiative needed to build a business case convincing enough to secure budgetary approval for LEED Existing Buildings Certification. The analysis included energy & water conservation initiatives such as efficient lighting, variable air volume systems, heat recovery wheels, recycling program, grey water system, and low-flow fixtures. In the end, they successfully won budget approval.

MUNICIPALITIES: The **City and County of San Francisco** sought to objectively assess the merits of a Green Roof policy, which would grant more flexibility to building owners relative to the originally proposed solar PV mandate. The analysis showed the Green Roof policy was economically feasible for building owners and beneficial to taxpayers. The ordinance was passed and went into effect on January 1, 2017. **The City of Boston's Planning and Development Agency** analyzed Federal stimulus funds allocated to various sustainability investments, including solar PV systems, boiler replacements, and municipal building renovations. **The New York City Metro Transit Authority assessed** the green roof of the $262M LEED Mother Clara Hale Bus Depot in Harlem. **The City of Chattanooga, TN** analyzed various energy reduction initiatives across city buildings to prioritize its capital planning and redevelopment schedule. Lastly, the **cities of Ottawa, Calgary, and Edmonton** determined the TBL-CBA of various possible levels of LEED building code mandates across a broad selection of building types (office, industrial, recreation, arts, emergency services, etc.) to evaluate where to set municipal code.